

## CLAIMS

- 1 1. A magnetoinductive flowmeter serving to measure the flow rate of a moving me-  
2 dium, with a measuring conduit, a sampling-electrode channel that extends through the  
3 wall of the measuring conduit, and a sampling electrode, said sampling electrode being so  
4 positioned in the sampling-electrode channel that its electrode head is recessed from the  
5 inner wall of the measuring conduit, wherein a section of the sampling-electrode channel  
6 located in front of the sampling-electrode head is a free space extending up to the interior  
7 of the measuring conduit.
- 1 2. The magnetoinductive flowmeter as in claim 1, wherein the sampling-electrode  
2 head is recessed from the inner wall of the measuring conduit by a distance correspond-  
3 ing to twice the diameter of the sampling-electrode channel.
- 1 3. The magnetoinductive flowmeter as in claim 1 or 2, wherein the measuring con-  
2 duit comprises a measuring tube provided with an electrically insulating internal liner and  
3 that the sampling-electrode head is recessed from the inner wall of said liner.
- 1 4. The magnetoinductive flowmeter as in claim 3, wherein the sampling-electrode  
2 head is recessed from the inner wall of the liner by a distance corresponding to the thick-  
3 ness of the liner.
- 1 5. The magnetoinductive flowmeter as in claim 3, wherein the liner extends into the  
2 sampling-electrode channel in such fashion as to cover at least part of the inner wall of  
3 the sampling-electrode channel with the liner.
- 1 6. A method for determining the erosion of the liner in the measuring tube of a  
2 magnetoinductive flowmeter that serves to measure the flow rate of a medium moving  
3 through the measuring tube equipped with a liner and that is provided with a sampling-  
4 electrode channel extending through the wall of the measuring tube and through the liner  
5 and accommodating a sampling electrode that is so positioned in the sampling-electrode

6 channel that its sampling-electrode head is recessed from the inner wall of the liner in a  
7 way as to leave free a section of the sampling-electrode channel located in front of the  
8 sampling-electrode head and extending up to the interior of the liner-equipped measuring  
9 tube, said method providing for a voltage signal to be collected at the sampling electrode  
10 and for the noise component of the voltage signal collected at the sampling electrode to  
11 be determined and compared against a reference value whereby, if and when said noise  
12 component of the voltage signal collected at the sampling electrode exceeds said refer-  
13 ence value, a signal is generated and transmitted that indicates an advanced state of ero-  
14 sion of the liner in the measuring tube.